

WE CLAIM:

1. A composition for culturing a population of epidermal melanocytes comprising basal medium, serum, one or more antibiotic, one or more growth factor, and one or more natural, physiological cAMP-elevating agent, wherein the epidermal melanocytes exhibit proliferative growth, melanin production and migratory behavior.

2. The composition of claim 1, wherein the serum is selected from the group consisting of bovine serum, new born bovine serum and fetal bovine serum.

3. The composition of claim 2, wherein the serum is fetal bovine serum.

4. The composition of claim 1, wherein the basal medium is selected from the group consisting of Ham's F12, RPMI and DMEM.

5. The composition of claim 4, wherein the basal medium is Ham's F12.

6. The composition of claim 1, wherein the growth factor is selected from the group consisting of basic fibroblast growth factor, hepatocyte growth factor, epidermal growth factor, and transforming growth factor- β .

7. The composition of claim 6, wherein the growth factor is hepatocyte growth factor and basic fibroblast growth factor.

8. The composition of claim 1, wherein the cAMP-elevating agent is selected from the group consisting of α -melanocyte stimulating factor, adrenaline, and L-epinephrine.

9. The composition of claim 8, wherein the cAMP-elevating agent is α -melanocyte stimulating factor.

10. The composition of claim 8, wherein the cAMP-elevating agent is L-epinephrine.

11. A method of obtaining a proliferating population of epidermal melanocytes comprising:

isolating epidermal melanocytes from a donor; and
culturing the epidermal melanocytes using the composition of claim 1.

12. The method of claim 11, wherein the epidermal melanocytes are isolated from a skin sample.

13. The method of claim 12, wherein the skin sample is obtained the group consisting of a minigraft or a blister top.

14. The method of claim 13, wherein the skin sample is obtained from a blister top.

15. The method of claim 14, wherein the blister top is removed from a suction blister obtained by applying a vacuum to the surface of the skin.

16. The method of claim 12, wherein the skin sample is treated mechanically and/ or enzymatically to dissociate epidermal melanocytes from other cells and tissues in the skin sample.

17. The method of claim 16, further comprising incubating the skin sample in genetin wherein the incubation inhibits the growth of keratinocytes and fibroblasts.

18. A method of providing a subject in need of skin pigmentation with a proliferating population of epidermal melanocytes comprising
isolating epidermal melanocytes from said subject;
culturing the epidermal melanocytes using the composition of claim 1 to obtain a proliferating population of epidermal melanocytes; and
applying the proliferating population of epidermal melanocytes to the skin of said subject.

19. A composition comprising a population of epidermal melanocytes cultured in a medium comprising basal medium, serum, one or more antibiotic, one or more growth factor, and one or more natural, physiological cAMP-elevating agent, wherein the epidermal melanocytes exhibit proliferative growth, melanin production and migratory behavior.